



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,478	07/17/2003	James Gary Pruett	HTLP.8213	2526

23575 7590 06/24/2005

JOSEPH G CURATOLO, ESQ.  
CURATOLO SIDOTI CO. LPA  
24500 CENTER RIDGE ROAD, SUITE 280  
CLEVELAND, OH 44145

EXAMINER

COLE, ELIZABETH M

ART UNIT	PAPER NUMBER
----------	--------------

1771

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/621,478

Applicant(s)

PRUETT ET AL.

Examiner

Elizabeth M. Cole

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) 1-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 42-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/19/03; 3/1/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

Art Unit: 1771

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-23, drawn to a continuous deposition furnace, classified in class 118, subclass 718.
  - II. Claims 24-34, drawn to a method of depositing pyrocarbon, classified in class 427, subclass 249.2.
  - III. Claims 35-41, drawn to carbon coated substrate material, classified in class 428, subclass 542.8.
  - IV. Claims, drawn to a continuous roll fibrous substrate, classified in class 422, subclass 59.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions of Groups II and Group I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process such as the deposition of a material other than carbon or an etching process.
3. Inventions of Group I, and Groups III and Group IV are related as apparatus and product made. The inventions in this relationship are distinct if either or both of the following can be shown: (1) that the apparatus as claimed is not an obvious apparatus for making the product and the apparatus can be used for making a different product or (2) that the product as claimed can be made by another and materially different

Art Unit: 1771

apparatus (MPEP § 806.05(g)). In this case the product as claimed can be made by another and materially different apparatus such as an apparatus without a pre-deposition zone.

4. Inventions of Group II, and Groups III and IV are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process such as one that does not use a pre-deposition zone.

5. Inventions of Group III and Group IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different functions and different effects. The product of Group III is not a continuous roll of a fibrous substrate, and has complex geometries. The product Group IV is a continuous roll of a fibrous substrate, and does not have complex geometries.

6. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

7. Because these inventions are distinct for the reasons given above and have

Art Unit: 1771

acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

8. During a telephone conversation with Joseph G. Curatolo on December 13, 2004 a provisional election was made with traverse to prosecute the invention of Group IV, claims 42-52. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-41 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

9. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

10. Claim 46 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 46, it is not clear what is meant by "sheet-like", in that it is not clear how the material would be the same as/different from a sheet. Also, it is not clear what is meant by "the fibrous substrate material comprises a substantially flat, sheet-like or a thin shape" because it is not clear what the difference would be between a substantially flat sheet and a thin sheet and because it is not clear how thick the sheet would have to be to be considered thin.

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent

Art Unit: 1771

and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 42-52 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-23 of copending Application No. 11/094,932 in view of Wilson et al, U.S. Patent NO. 6,155,432. Application '932 discloses a uniform pyrolytic carbon which can be used to form filter materials, (see claims 1 and 21). Application '932 differs from the claimed invention because it does not disclose that the pyrolytic carbon is applied as a coating or infiltration for a fabric material. Wilson et al teaches a filter media structure comprising inorganic fibers on which a thin layer of pyrolytic carbon is deposited. It would have been obvious to have formed the filter comprising the pyrolytic carbon of claims 1-23 of Application '932 so that it had the structure of Wilson et al, motivated by the teaching of Wilson that this produces a filter media structure having low cost, good durability, high temperature and chemical resistance as well as high permeability and mechanical strength.

This is a provisional obviousness-type double patenting rejection.

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 1771

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 42-52 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wilson et al, U.S. Patent No.

6,155,432. Wilson discloses a structure comprising a substrate which comprises inorganic fibers and inorganic fiber whiskers. The inorganic fibers can comprise carbon fibers including those derived PAN, pitch or rayon precursor, ceramic fibers such as silicon carbide, silicon nitride, aluminosilicates and others. The inorganic fiber whiskers can comprise alumina, carbon, silica, glass silicon carbide, silicon nitride, titanium nitride and mixtures thereof. See col. 5, lines 28-42. The filter media can be in the form of paper, felts, needled felts, fabric, flat, shaped or corrugated plates, tubes, cylinder and corrugated or pleated cylinders. See col. 6, lines 11-15. a pyrolytic carbon coating can be formed on the filter media structure. See col. 7, lines 18-22. Wilson et al does not explicitly teach the claimed variation in the mass of the pyrolytic carbon coating. However, Wilson et al does teach forming a thin layer and it is reasonable to presume that the layer would be consistent. Further, when the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render

Art Unit: 1771

obvious the claimed invention the examiner has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP §§ 2112- 2112.02. Thus, in the instant case, the burden is shifted to applicant to show that the material of Wilson does not meet the claimed limitation regarding the variation in mass of the coating.

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gibson et al, U.S. Patent No. 5,952,249; Mitchell et al, U.S. Patent No. 4,396,663.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

Mr. Terrel Morris, the examiner's supervisor, may be reached at (571) 272-1478.

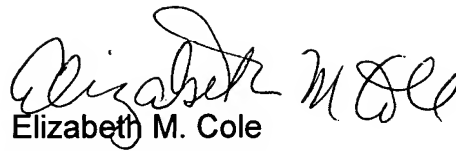
Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (703) 872-9306.



Art Unit: 1771

A handwritten signature in black ink, appearing to read "Elizabeth M. Cole". The signature is fluid and cursive, with the first name "Elizabeth" written in a larger, more prominent script than the last name "Cole".

Elizabeth M. Cole  
Primary Examiner  
Art Unit 1771

e.m.c